AMENDMENTS TO SPECIFICATION

Please amend the TITLE of the application as follows:

~~Novel Telomerase~~

Methods for Detecting Nucleic Acids Encoding Human Telomerase Reverse Transcriptase

Please make the following amendments to the text of the specification (the paragraphs are numbered according to the application as published):

[0001] ~~The present~~ This application is a continuation of U.S. patent application Ser. No. 09/843,676, filed Apr. 26, 2001, pending, which is a continuation of U.S. patent application Ser. No. 08/854,050, filed May 9, 1997, now U.S. Pat. No. 6,261,836; which is a continuation-in-part of U.S. patent application Ser. No. 08/851,843, filed May 6, 1997, now U.S. Pat. No. 6,093,809; which is a continuation-in-part of U.S. patent application Ser. No. 08/846,017, filed Apr. 25, 1997, now abandoned; which is a continuation-in-part of U.S. patent application Ser. No. 08/844,419, filed Apr. 18, 1997, now abandoned ~~; which is a continuation-in-part of U.S. patent application Ser. No. 08/724,643, filed Oct. 1, 1996, now abandoned. Each of the aforementioned applications is explicitly incorporated herein by reference in its entirety and for all purposes.~~

[0028] In alternative preferred embodiments, the present invention provides polynucleotide sequences corresponding to the human telomerase, including SEQ ID NOS: 173 and 224, and their complementary sequences. The invention further contemplates fragments of these polynucleotide sequence (ie., SEQ ID NOS: 173 and 224) that are at least 5 nucleotides, at least 20 nucleotides, at least 100 nucleotides, at least 250 nucleotides, and at least 500 nucleotides in length. The invention further contemplates fragments of the complements of these polynucleotide sequences (ie., SEQ ID NOS: 173 and 224) that are at least 5 nucleotides, at least 20 nucleotides, at least 100 nucleotides, at least 250 nucleotides, and at least 500 nucleotides in length. In addition, the invention features polynucleotide sequences that hybridize under stringent conditions to SEQ ID NOS: 173 and 224, and/or fragments, and/or the complementary sequences thereof.

The present invention further contemplates a polynucleotide sequence comprising the complement of the nucleic acids of SEQ ID NOS: 173 and 224, or variants thereof. In a further embodiment, the polynucleotide sequence comprises a purified, synthetic nucleotide sequence corresponding to a fragment of SEQ ID NOS: 173 and 224, having a length of about ten to thirty nucleotides. The present invention further provides plasmid pGRN121 (ATCC accession #20916), and the lambda clone 25-1.1 (ATCC accession #209024).

[0038] The present invention also provides methods for detecting the presence of nucleotide sequences encoding at least a portion of human telomerase in a biological sample, comprising the steps of, providing: a biological sample suspected of containing nucleic acid corresponding to the nucleotide sequence of SEQ ID NO: 100, and/or SEQ ID NO: 173, and/or SEQ ID NO: 224; the ~~nucleotide~~ polynucleotide of SEQ ID NO: 100, and/or SEQ ID NO: 173, and/or SEQ ID NO: 224, or fragment(s) thereof, combining the biological sample with the ~~nucleotide~~ polynucleotide under conditions such that a hybridization complex is formed between the nucleic acid and the ~~nucleotide~~ polynucleotide; and detecting the hybridization complex.

[0098] FIG. 54 provides a restriction map of lambda clone 25-1.1 (ATCC accession #209024)

[0372] In addition, human cDNA libraries (inserted into lambda) were probed with the EcoRI-NotI fragment of the clone (#AA281296). One lambda clone, designated "lambda 25-1.1 ," (ATCC accession #209024) was identified as containing complementary sequences. FIG. 54 shows a restriction map of this lambda clone. The human cDNA insert from this clone was subcloned as an EcoRI restriction fragment into the EcoRI site of commercially available phagemid pBluescriptIISK+(Stratagene), to create the plasmid "pGRN121," which was deposited with the ATCC (ATCC accession #209016). Preliminary results indicated that plasmid pGRN121 contains the entire open reading frame (ORF) sequence encoding the human telomerase protein.